

REMARKS***CLAIM OBJECTIONS***

The claims that were objected to have been deleted and new independent claims added. The new claims correspond directly with the features defined in the deleted claims, and no new matter has been entered.

In particular, claims 4, 5 and 7 have been deleted. Newly added claim 14 includes the features of claims 1, 2 and 4, which Examiner has indicated is an allowable combination. Newly added claim 15 includes the features of claims 1, 2 and 5, which Examiner has indicated is an allowable combination. Regarding newly added claim 16, Applicant submits that the features of claims 2 and 6, which were included in original claim 7, were not actually required for the features of claim 7 to be allowable. Accordingly, they have not been included in claim 16 (which incorporates the features of claims 1 and 7), but instead are incorporated in newly added claim 17 (which incorporates the features of claims 1, 2, 6 and 7). Applicant trusts these amendments meet with Examiner's acceptance.

CLAIM REJECTIONS

Applicant thanks Examiner for the detailed and helpful explanation of claims rejection, but respectfully traverses the rejections.

Regarding claim 1, there is defined a system in which first and second controllers are used to control respective first and second pagewidth printheads, which in turn are associated with first and second print engines. The printhead print on opposite sides of a page, substantially simultaneously.

A critical feature in the present invention as claimed is that the controller receives "descriptions of pages to be printed". One skilled in the art would understand this to mean that the claimed controller is defined as receiving data in the form of page description data, rather than in a binary image form as in the Silverbrook reference. At column 31 of Silverbrook, from line 63 onwards, it is described that page layout information is sent to a raster image processor (RIP) 552, where it is converted from a page description language format into a printable binary image. As described at column 32, from line 61, it is this binary image data that is sent via digital data link 578 to color printing module 574. It

cannot therefore be said that the "controller" in Silverbrook identified by Examiner (control microcomputer 511 in Fig 8) receives

It is important to realise that the simultaneity of printing is an important part of the printing process. The object of the present invention is to provide a system in which two printheads print a page substantially simultaneously, as described at page 59, line 15-18 of the present specification. As shown in Fig 9 in the Silverbrook reference, the modules 563 and 564 for printing on both sides of the paper are disposed a considerable way from each other in the print path. Printing is therefore far from being simultaneous.

Examiner acknowledges the absence of a synchronisation link between the two printheads in the Silverbrook reference, and suggests that it would have been obvious to modify Silverbrook with features disclosed in Sullivan. However, Sullivan is concerned with a pair of printheads that are mounted end to end to form a double width printhead, which is an entirely different situation to duplex printing with a pair of pagewidth printheads.

Examiner proposes that there would be motivation to combine the master/slave controller arrangement of Sullivan with the arrangement of Silverbrook to anticipate the present invention. Applicant strongly disagrees that there is any such motivation in either document. Sullivan is concerned with providing complete synchronisation of end-to-end mounted printheads to ensure that each print line printed at precisely the same time. However, the printhead modules 563 and 563 of Silverbrook are substantially spaced apart in the printing chain. Combining the controller arrangement of Sullivan with the Silverbrook arrangement would therefore result in a system with two printheads spaced relatively far apart from each other in the print path, but printing in synchronisation due to the impact of the controller synchronisation of Sullivan. Clearly this would result in highly undesirable registration errors between the images printed on the front and rear of the page respectively.

For all these reasons, it is submitted that claim 1 is allowable over the cited art.

It is submitted that claim 2 is allowable based on its dependence on claim 1.

Claim 3 adds that the first link is bi-directional. Examiner submits it would have been obvious to modify Silverbrook and Sullivan in accordance with the teaching of

Ikenoue. Applicant notes that there must be some motivation to combine features from different documents, and that the motivation must be found in the documents themselves. It is admitted that Ikenoue discloses a bi-directional link between master and slave modules. However, Ikenoue is concerned with an *image processing system* in which master and slave *processors* (see Fig 1A, for example, and column 8 from line 6 onwards) communicate with each other to process image data. In this context, it makes perfect sense that communication needs to be two-way, since the image data processed by the slave processors must be accessible by the master processor. However, the modules disclosed in Ikenoue are not *print controllers*, nor is there even any mention of print controllers in Ikenoue. It cannot therefore be said that there is any teaching in any of the documents to provide bi-directional communication between master and slave print controllers, as is defined in the present case. Applicant submits that, on this basis, claim 3 is allowable over the cited art.

It is submitted that claim 6 is allowable based on its dependency on claim 2.

Further consideration of the present application is respectfully requested.

CONCLUSION

It is respectfully submitted that all of the Examiner's objections have been successfully traversed. Accordingly, it is submitted that the application is now in condition for allowance. Reconsideration and allowance of the application is courteously solicited.

Very respectfully,

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